

The DMEK Triple:
Are We Any Closer to Emmetropia?

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The authors have no pertinent financial conflicts of
interest to disclose.

Background

- We previously reported superior refractive predictability with the DLEK Triple compared to the PK Triple
- And even better refractive predictability with the DSAEK Triple

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In Pursuit of Emmetropia

Spherical Equivalent Refraction Results with Deep Lamellar Endothelial Keratoplasty (DLEK)

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Endothelial Keratoplasty for Fuchs' Dystrophy with Cataract

Complications and Clinical Results with the New Triple Procedure

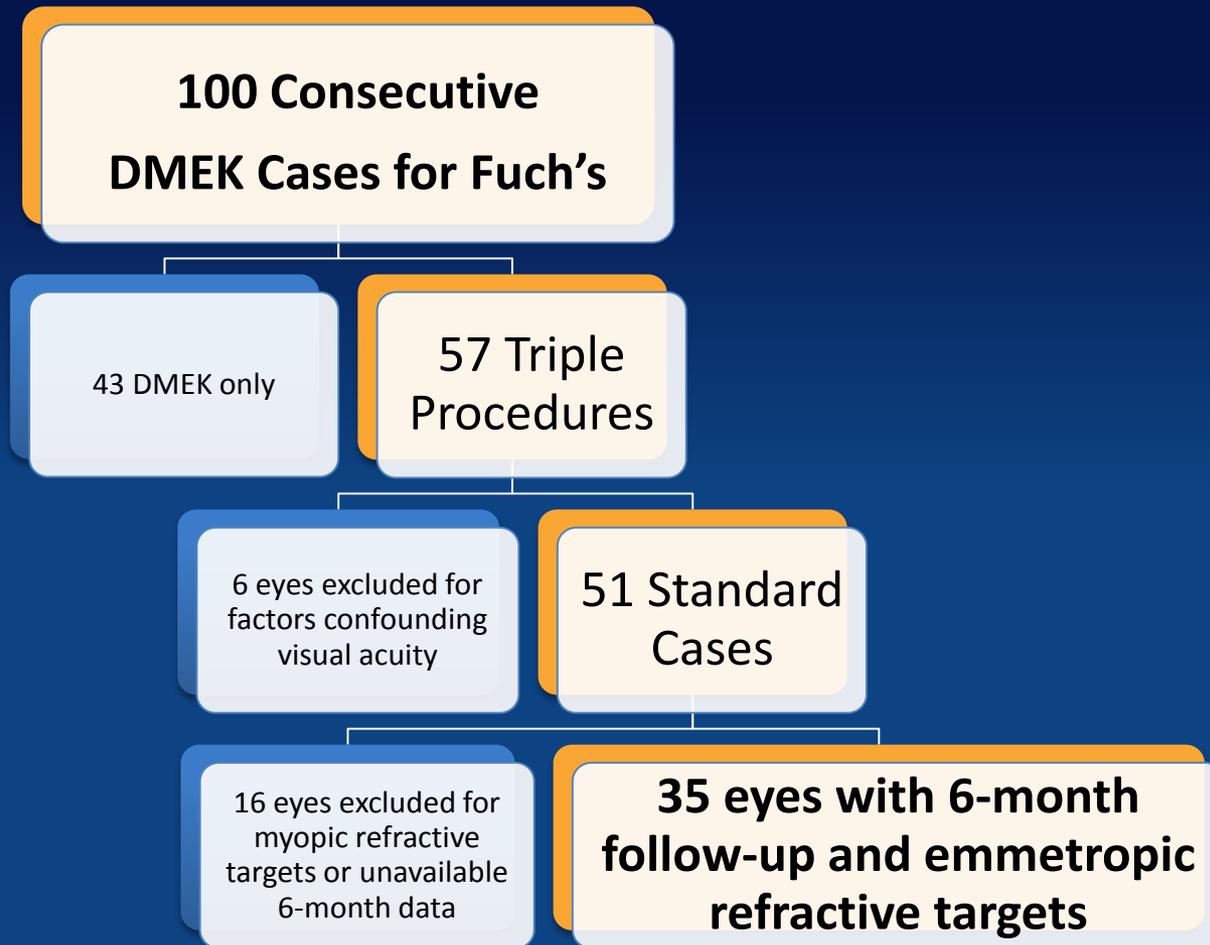
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Purpose

- To determine whether the new DMEK Triple delivers predictable refractive outcomes compared to our previously reported results with the DSAEK Triple.

Study Design



Study Design

Devers Standardized DMEK technique

- Pre-stripped tissue from the Lions VisionGift
- S-Stamp
- Overstripping of the recipient
- Straiko glass injector
- No-touch tap technique (DMEK “Dance”)
- 20% SF6 bubble

Study Design

- Emmetropia was targeted by selecting IOLs for a -0.70 D SE to account for the the hyperopic shift after DMEK
- Biometry was performed with the LenStar
- BSCVA was measured with a Snellen projector system

Study Design

Primary Outcome Measures:

- Manifest refraction

Secondary Outcome Measures:

- CCT
- BSCVA

Results

Central Corneal Thickness After DMEK Triple



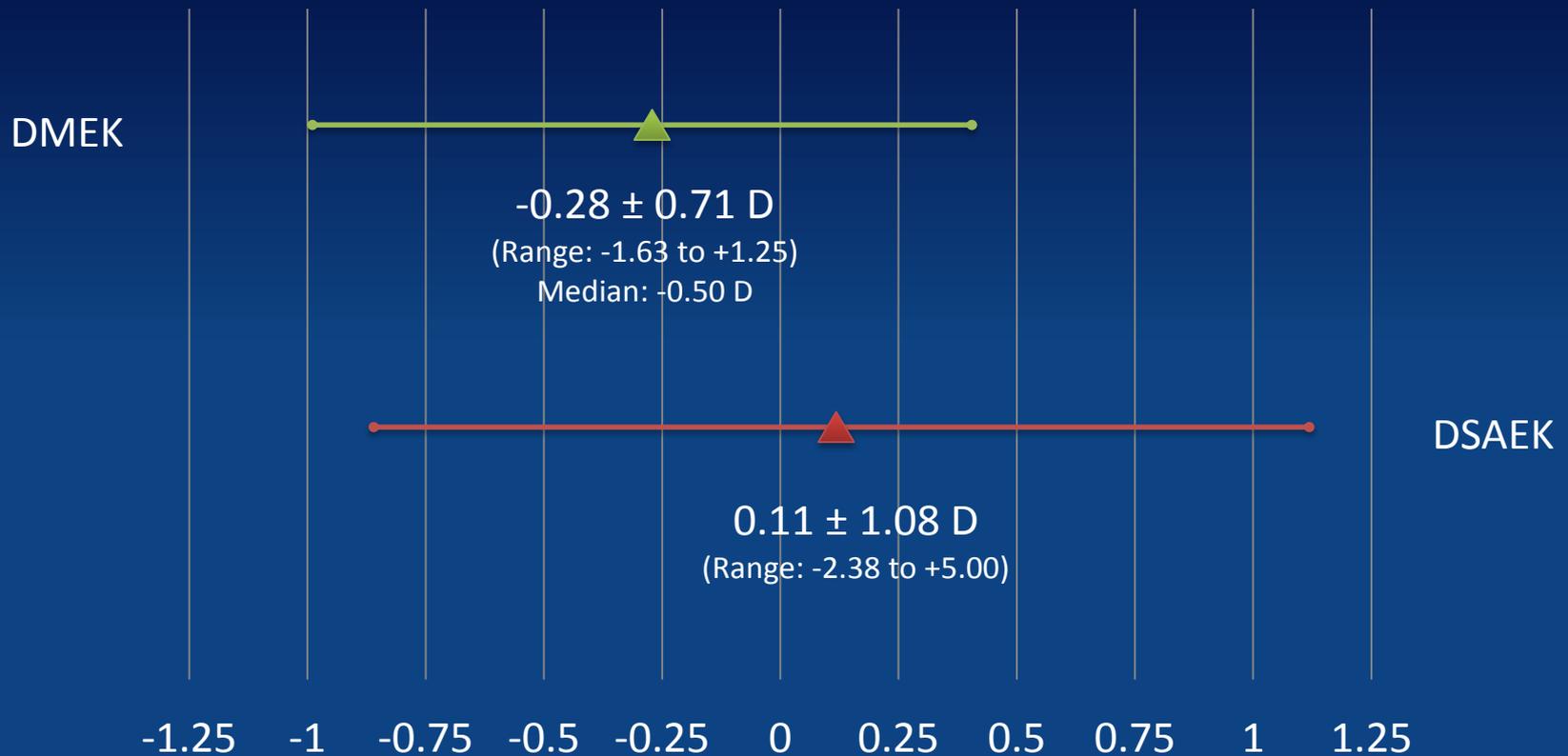
Results

BSCVA After DMEK vs. DSAEK Triple



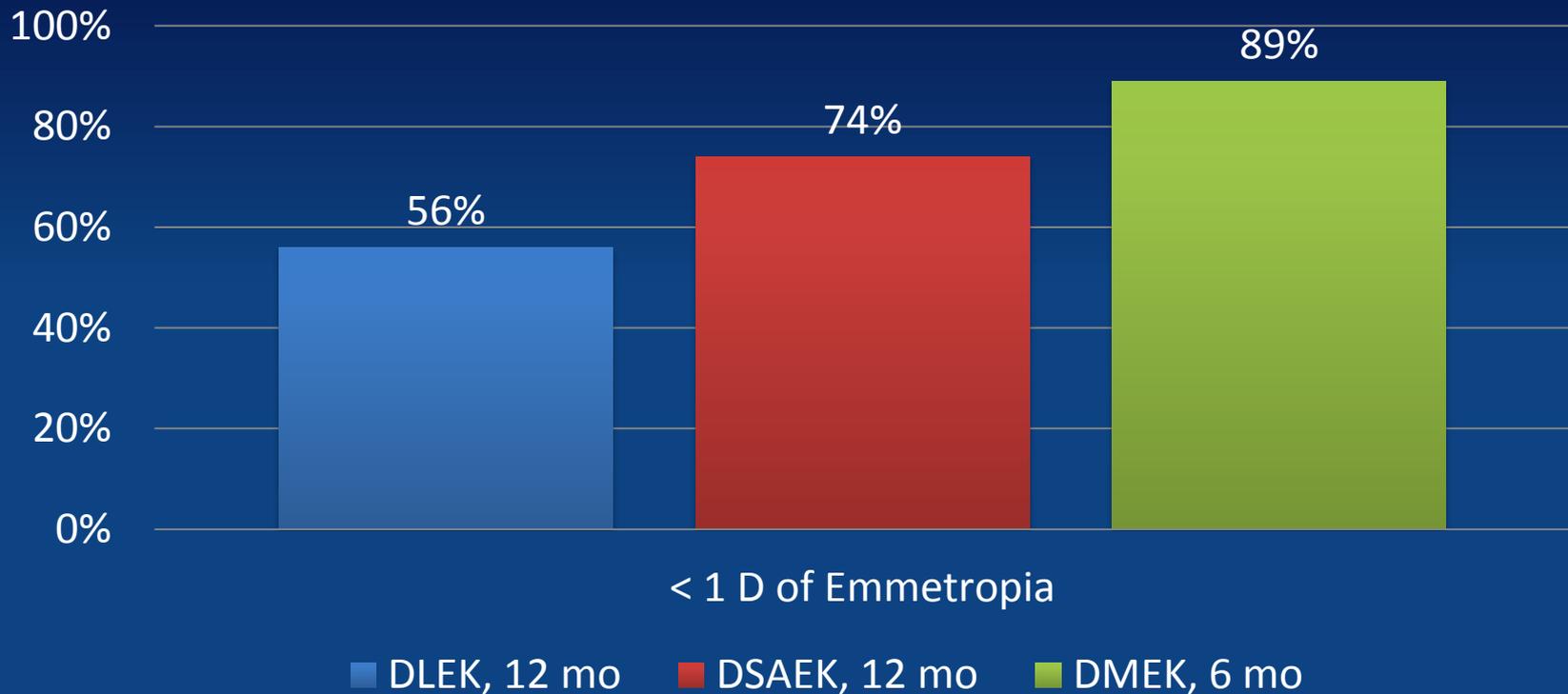
Results

SE 6-months After DMEK vs. DSAEK Triple



Results

Frequency of SE within < 1 D of Emmetropia After DLEK vs. DSAEK vs. DMEK Triple



Conclusions

- The DMEK Triple delivers a greater frequency of refractive outcomes within < 1 D of emmetropia than the DSAEK Triple
- This may be because DMEK achieves a more anatomic CCT and posterior corneal curvature
- Selecting IOL targets that account for anticipated shifts in CCT and corneal curvature might further optimize refractive predictability